

**AMENDMENTS TO THE CLAIMS**

1-24. (Canceled).

25. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing ~~at least one~~ a mutation into SEQ ID NO:1,

wherein said ~~at least one~~ mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: the 11<sup>th</sup> Tyr, 16<sup>th</sup> Glu, 49<sup>th</sup> Asn, 84<sup>th</sup> Glu, ~~107<sup>th</sup> Met~~, 144<sup>th</sup> Ser, 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 178<sup>th</sup> Ala, 188<sup>th</sup> Glu, 190<sup>th</sup> Asn, 205<sup>th</sup> His and 209<sup>th</sup> Gln, with another amino acid, and optionally an additional substitution of an amino acid residue at 107th Met with another amino acid residue.

26. (Currently Amended) The mutant  $\alpha$ -amylase according to claim 25 or claim 47, wherein the 11<sup>th</sup> Tyr of SEQ ID NO:1 is substituted with Phe, the 16<sup>th</sup> Glu of SEQ ID NO:1 is substituted with Pro, the 49<sup>th</sup> Asn of SEQ ID NO:1 is substituted with Ser, the 84th Glu of SEQ ID NO:1 is substituted with Gln, the 144th Ser of SEQ ID NO:1 is substituted with Pro, the 167 Gln of SEQ ID NO:1 is substituted with Glu, the 169<sup>th</sup> Tyr of SEQ ID NO:1 is substituted with Lys, the 178th Ala of SEQ ID NO:1 is substituted with Gln, the 188th Glu of SEQ ID NO:1 is substituted Asp, the 190<sup>th</sup> Asn of SEQ ID NO:1 is substituted with Phe, the 205<sup>th</sup> His of SEQ ID NO:1 is substituted with Arg, and the 209<sup>th</sup> Gln of SEQ ID NO:1 is substituted with Val.

27. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

and wherein said mutation consists of:

substituting ~~an amino~~ N-amino terminal sequence from 1<sup>st</sup> Asp through 19<sup>th</sup> Gly of SEQ ID NO:1 with an amino acid sequence from 1<sup>st</sup> His to 21<sup>st</sup> Gly of SEQ ID NO:2.

28-29. (Canceled).

30. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

wherein said mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: 167<sup>th</sup> Gln and 169<sup>th</sup> Tyr with another amino acid, ~~respectively~~.

31. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

wherein said mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: 190<sup>th</sup> Asn and 209<sup>th</sup> Gln with another amino acid, ~~respectively~~.

32. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

wherein said mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, ~~respectively~~.

33. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing the following mutations ~~a mutation~~ into SEQ ID NO:1, ;

~~wherein said mutation consists of:~~

~~the substitution of an amino acid residue selected from the group consisting of: 107<sup>th</sup> Met, 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, respectively.~~

34. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing the following mutations ~~a mutation~~ into SEQ ID NO:1, ;

~~wherein said mutation consists of:~~

~~the substitution of an amino acid residue selected from the group consisting of: 49<sup>th</sup> Asn, 107<sup>th</sup> Met, 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, respectively.~~

35. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing the following mutations ~~a mutation~~ into SEQ ID NO:1, ;

~~wherein said mutation consists of:~~

~~the substitution of an amino acid residue selected from the group consisting of: 49<sup>th</sup> Asn, 107<sup>th</sup> Met, 205<sup>th</sup> His, 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, respectively.~~

36. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 30, wherein the 167<sup>th</sup> Gln is substituted with Glu, and wherein said 169<sup>th</sup> Tyr is substituted with Lys.

37. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 31, wherein the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

38. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 32, wherein the 167<sup>th</sup> Gln is substituted with Glu, the 169<sup>th</sup> Tyr is substituted with Lys, the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

39. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 33, wherein the 107<sup>th</sup> Met is substituted with Leu, the 167<sup>th</sup> Gln is substituted with Glu, the 169<sup>th</sup> Tyr is substituted with Lys, the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

40. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 34, wherein the 49<sup>th</sup> Asn is substituted with Ser, the 107<sup>th</sup> Met is substituted with Leu, the 167<sup>th</sup> Gln is substituted with Glu, the 169<sup>th</sup> Tyr is substituted with Lys, the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

41. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 35, wherein the 49<sup>th</sup> Asn is substituted with Ser, the 107<sup>th</sup> Met is substituted with Leu, the 167<sup>th</sup> Gln is substituted

with Glu, the 169<sup>th</sup> Tyr is substituted with Lys, the 190<sup>th</sup> Asn is substituted with Phe, the 205<sup>th</sup> His is substituted with Arg, and wherein said 209<sup>th</sup> Gln is substituted with Val.

42. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing the following mutations ~~a mutation~~ into SEQ ID NO:1;

~~wherein said mutation consists of:~~

~~the substitution of an amino acid residue selected from the group consisting of:~~ 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with Glu, Lys, Phe, and Val, respectively, and

the substitution of ~~an amino~~ N-amino terminal sequence from 1<sup>st</sup> Asp through 19<sup>th</sup> Gly of SEQ ID NO:1 with an amino acid sequence from 1<sup>st</sup> His to 21<sup>st</sup> Gly of SEQ ID NO:2.

43. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

wherein said mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: 144<sup>th</sup> Ser, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, ~~respectively~~.

44. (Previously Presented) The mutant  $\alpha$ -amylase according to claim 43, wherein the 144<sup>th</sup> Ser is substituted with Pro, the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

45. (Currently Amended) A mutant  $\alpha$ -amylase obtained by introducing a mutation into SEQ ID NO:1,

wherein said mutation consists of:

the substitution of an amino acid residue selected from the group consisting of: 16<sup>th</sup> Glu, 144<sup>th</sup> Ser, 190<sup>th</sup> Asn, and 209<sup>th</sup> Gln with another amino acid, ~~respectively~~.

46. (Currently Amended) The mutant  $\alpha$ -amylase according to ~~claim 44~~ claim 45, wherein the 16<sup>th</sup> Glu is substituted with Pro, the 144<sup>th</sup> Ser is substituted with Pro, the 190<sup>th</sup> Asn is substituted with Phe, and wherein said 209<sup>th</sup> Gln is substituted with Val.

47. (New) A mutant  $\alpha$ -amylase obtained by introducing between 1 and 12 mutation(s) into SEQ ID NO:1, wherein said mutation(s) consists of:

the substitution of an amino acid residue selected from the group consisting of: the 11<sup>th</sup> Tyr, 16<sup>th</sup> Glu, 49<sup>th</sup> Asn, 84<sup>th</sup> Glu, 144<sup>th</sup> Ser, 167<sup>th</sup> Gln, 169<sup>th</sup> Tyr, 178<sup>th</sup> Ala, 188<sup>th</sup> Glu, 190<sup>th</sup> Asn, 205<sup>th</sup> His and 209<sup>th</sup> Gln, with another amino acid, and optionally an additional substitution of an amino acid residue at 107<sup>th</sup> Met with another amino acid residue.